DOCUMENT RESUME

ED 456 980 RC 023 180

AUTHOR	Conger, Rand D.
TITLE	The Social Context of Substance Abuse: A Developmental Perspective.
PUB DATE	1997-05-00
NOTE	32p.; In: Rural Substance Abuse: State of Knowledge and Issues. NIDA Research Monograph 168; see RC 023 179.
AVAILABLE FROM	For full text: http://www.nida.nih.gov/PDF/Monographs/Monograph168/Download168.html.
PUB TYPE	Information Analyses (070) -- Opinion Papers (120)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Adolescent Development; *Behavior Problems; *Child Development; Child Rearing; *Context Effect; Delinquency; Early Experience; *Family Environment; Models; Parent Child Relationship; Peer Relationship; Risk; *Social Environment; *Substance Abuse

ABSTRACT

Research findings on the early precursors of substance use and related adjustment difficulties have led to interest in developmental models to explain problem behavior. This paper examines five major themes that characterize the relationship among social context, individual disposition, and syndromes of problem behaviors that include substance use and abuse. These themes are: the developmental nature of antisocial behavior; its link to oppositional or aversive acts in early childhood; its foundation in family relationships; its role in bidirectional influences within the family; and its reciprocal ties to family members' behaviors and the responses of other social contexts (such as peers, school, and community) of the developing child or adolescent. A developmental model of proximal social-contextual influences on substance abuse and behavior problems is proposed that encompasses the five themes. The model itself generalizes across rural-urban contexts but its parameters often vary as a function of rural/urban setting. The proposed developmental sequence begins in the family, where childhood oppositional behavior and exposure to family misuse of substances dramatically increase risk for later adolescent delinquency and substance use. Family substance use, inept parenting, and hostile family interactions lead to serious social skill deficits in the child, which in turn result in rejection by conventional peers. Socially rejected youth form a deviant peer group, providing a training ground for experimenting with substances and delinquency. Ultimately, the developmental sequence influences rates of delinquent behavior and substance abuse at the school and neighborhood levels. (Contains 64 references.) (SV)

Reproductions supplied by EDRS are the best that can be made
from the original document.

The Social Context of Substance Abuse: A Developmental Perspective

Rand D. Conger

Contemporary American society struggles to find solutions to multiple problem behaviors involving crime, delinquency, violence, and substance abuse (Elliott et al. 1989; Hawkins et al. 1992; Reiss et al. 1993; Sampson and Laub 1993). Research evidence indicates that these phenomena are interrelated and that individuals demonstrating one behavioral disorder, such as substance abuse, are at increased risk for experiencing other adjustment difficulties (Jessor et al. 1991). Indeed, many researchers suggest that the initial causal mechanisms for a broad range of the most serious and chronic problems increases the probability of later crime, delinquency, and substance abuse (Elliott et al. 1989; Gottfredson and Hirschi 1990; Moffitt 1993; Sampson and Laub 1993). Moreover, individual pathways from early childhood behavioral problems to multifaceted syndromes of maladjustment take shape within a set of closely connected social contexts involving family, peers, school, and other community institutions.

Findings regarding the early precursors of substance use and related adjustment difficulties have led to interest in developmental models for the explanation of problem behavior. Theoretical frameworks for explaining the development of substance abuse and correlated antisocial acts seek to identify the social and dispositional mechanisms that account for the initiation, maintenance, and termination of problem behaviors across time (Conger and Simons 1995; Hawkins et al. 1992). The developmental approach to understanding substance use, which views social context as part of a dynamic process, has been especially important. Social factors, for example, are predicted to affect risk for substance use and abuse, but problems with substances also are hypothesized to influence possibilities for future social involvements that will, in turn, have an effect on later risk. Although there are exceptions, for the most part these dynamic processes appear to begin early in life and can be charted from childhood through adolescence to the adult years. The following discussion will focus on the years from childhood through adolescence because adult risk for conduct and substance problems

RC023180

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

largely emanates from acts and experiences during this period of life (Gottfredson and Hirschi 1990; Sampson and Laub 1993).

This chapter considers five major themes (to be elaborated later) that characterize the relationships among social context, individual dispositions, and syndromes of problem behaviors that include substance use and abuse (see also Conger and Simons 1995). The discussion first summarizes contemporary findings regarding risk mechanisms that typically involve reciprocal links between social contexts or processes and individual development. This review leads to the elaboration of a developmental model regarding social influences in substance abuse. The final section of the chapter considers the need for future research to evaluate the proposed conceptual framework.

Although the current volume focuses on rural substance use, the information in this chapter is general in its application to multiple behavior problems and social contexts. As will be considered more fully in subsequent chapters, the model developed here generalizes across contexts, but the values of the parameters in the model will often vary as a function of urban or rural setting. For example, the model considers community characteristics, such as the amount of substance use in the neighborhood, that affect risk for substance abuse. This risk factor will be equally influential in both urban and rural locations; however, the rates and types of community drug and alcohol use may vary systematically by geographic context, thus producing urban and rural differences in risk for specific types of substance abuse.

CONTEMPORARY THEMES IN EXPLAINING MULTIPLE PROBLEM BEHAVIORS

Substance abuse appears to be one dimension of an interrelated cluster of problem behaviors that includes delinquent and criminal activities (Jessor et al. 1991; Patterson et al. 1992). For that reason, the following theoretical and empirical themes apply both to substance abuse and to antisocial behavior in general. Especially important, the most basic premise (theme #1) in current understanding of this constellation of problem behaviors is that substance abuse is part of a developmental progression from relatively minor to more serious antisocial activities (Elliott et al. 1989; Loeber and LeBlanc 1990; Patterson 1993). In their longitudinal study of a national sample of children and adolescents, for example, Elliott and colleagues (1989, p. 189) found that "Minor delinquency

comes first, followed by alcohol use, serious delinquency, and serious drug use." Findings such as these illustrate the contemporary view that, in most cases, substance abuse does not suddenly emerge as a serious problem during adolescence with little or no previous experimentation with other deviant activities. Indeed, the data suggest that problems with substances are exacerbated by and likely con-tribute to a variety of delinquent and criminal acts (Sampson and Laub 1993). This understanding—that crime, delinquency, and the misuse of substances likely result from interrelated developmental processes—suggests that general principles basic to the full range of human developmental phenomena may apply equally well to the explanation of these behaviors.

Placing substance abuse within a developmental progression of antisocial behaviors that begin with relatively minor deviant acts during childhood underscores the need for social-contextual models of substance abuse that include explanatory variables existing early in the life course (theme #2). Contemporary thought suggests that a comprehensive understanding of substance abuse and related problems requires the explanation of anti-social behaviors such as temper tantrums and noncompliance during early childhood, before the age when serious substance abuse or criminal acts are likely to occur (Gottfredson and Hirschi 1990; Hawkins et al. 1992; Moffitt 1993; Simons et al. 1994*a*). Current theory and empirical evidence suggest that syndromes of problem behaviors, including substance use, cannot be understood only in terms of causal influences occurring during adolescence or adulthood. Indeed, several theorists now postulate that the most powerful predictors of later chronic substance abuse and delinquency during the teenage years include noncriminal antisocial conduct during childhood (e.g., Moffitt 1993). From this perspective, an understanding of adolescent antisocial behavior requires an explanation of childhood misconduct that serves as a primary precursor to later serious delinquent offenses, including the abuse of substances (Moffitt 1993; Patterson 1993).

The realization that the early manifestations of problem behaviors likely become apparent before adolescence has placed new emphasis on the role of the family in explanations of antisocial tendencies (theme #3). Contemporary scholars representing diverse theoretical approaches now assign a central role to family processes in the early development of antisocial behavior and later substance abuse, delinquency, and criminal conduct (Akers 1994; Gottfredson and Hirschi 1990; Loeber and Stouthhamer-Loeber 1986; Patterson et al. 1992; Moffitt 1993; Thornberry 1987). Numerous studies have clearly demonstrated that parents increase the

BEST COPY AVAILABLE

probability of having an antisocial child when they: (1) fail to adequately supervise their children, (2) do not provide appropriate discipline for misconduct, (3) treat their children in a neglecting or hostile fashion, and (4) fail to positively attend to or reinforce conventional activities or socially desirable behavior (Conger et al. 1992, 1993, 1994*a*; Hawkins et al. 1992; Simons et al. 1994*a*, 1994*b*). Particularly important, this renewed interest in family process brings with it a more sophisticated, contemporary view of family dynamics and deviant developmental trajectories.

The current perspective (theme #4) suggests that family interactions involve reciprocal influences in parent and child behaviors that affect both the probability of child misconduct and also disruptions in effective child-rearing practices (Conger and Rueter 1995; Lytton 1990; Thornberry et al. 1991; Vuchinich et al. 1992). Vuchinich and colleagues (1992), for example, demonstrated that antisocial behavior by 11- to 12-year-old boys had an adverse influence on effective disciplinary practices of parents, controlling for the same parent behaviors assessed 2 years earlier. Thus, these boys' misconduct, which included generally oppositional behavior (e.g., noncompliance with parent requests) as well as potentially delinquent acts (e.g., stealing), was related to reduced parenting competence across time. Effective disciplinary practices, on the other hand, were associated with relatively fewer (compared to other boys in the sample) antisocial behaviors at the second wave of assessment. Moreover, Conger and Rueter (1995) demonstrated that alcohol abuse by seventh graders predicted later harsh and inconsistent parenting that, in turn, increased risk for associating with peers who drink and later alcohol abuse by these teenagers. The parents and youths in these studies, then, apparently had reciprocal influences on one another's behavior, consistent with the contemporary view of bidirectional family effects (Thornberry 1987) but inconsistent with earlier models that postulated only an impact of parenting on deviance and delinquency (e.g., Hirschi 1969).

The theme just discussed emphasizes the importance of the family as a social institution that regulates, or fails to regulate, the development of child and adolescent substance abuse and related antisocial behavior across time. It has long been recognized, of course, that the family represents only one of several interrelated social contexts that affect the developmental trajectories of youth. An important advance in the field has been the recognition that reciprocal influences exist not only within the family but also between the behaviors of individual family members and the other social contexts important to the development or

restraint of adolescent misconduct (theme #5). Related to the school environment, Thornberry and colleagues (1991) have shown reciprocal negative influences between deviant behavior and school commitment across time. Their results demonstrate not only that commitment to academic pursuits decreases involvement in delinquency but also that antisocial behavior decreases success in school.

Regarding peers, Melby and associates (1993) found that tobacco use by parents and siblings increased the likelihood that seventh graders would select friends who use tobacco, and Conger and Rueter (1995) showed these same influences for adolescent drinking problems. Association with deviant friends, of course, is usually the strongest correlate of both substance abuse and delinquent behavior in general (Elliott et al. 1989; Hawkins et al. 1992). These findings suggest that family influences affect the selection of peers who, in turn, are likely to exacerbate problem behaviors that will have an adverse impact on the family. In addition, Sampson and Groves (1989) have shown that community participation and involvement in extensive friendship networks by adults, presumably including parents, reduces adolescent misconduct at the community level. Thus, parents' roles in the community can affect the degree of exposure by their children to antisocial influences that, in turn, can increase the difficulty of successful childrearing (Richters and Martinez 1993).

The material just reviewed indicates that a useful theory of social-contextual influences on adolescent conduct problems, including the use or abuse of alcohol, tobacco, and other drugs, needs to address these five contemporary themes in the study of antisocial behavior: (1) the developmental nature of antisocial behavior, (2) its link to oppositional or aversive acts in early childhood, (3) its foundations in family relationships, (4) its role in bidirectional influences within the family, and (5) its reciprocal ties to the behaviors of family members and the responses of other social contexts (e.g., peers, school, and community) important to the developing child or adolescent. A social-contextual perspective also needs to address the demonstrated relation between adult antisocial behavior and earlier substance use and conduct problems. That is, a social-contextual approach necessarily takes a life-course perspective, which emphasizes the reciprocal interplay between individual behavior and social influences from early childhood to the adult years. The next section elaborates the basic elements of a social-contextual theoretical framework for substance abuse that is consistent with the themes just reviewed and with empirical findings.

A SOCIAL-CONTEXTUAL MODEL OF SUBSTANCE USE AND ABUSE

A fully elaborated model of social-contextual influences on substance use and abuse must address the five themes just discussed. As illustrated in figure 1, these themes begin with the assumption that the misuse of drugs and alcohol is developmental in nature, in many instances, starting with behavioral precursors present early in life and extending in some cases late into the adult years (life course stages in figure 1). Moreover, a comprehensive social-contextual framework must consider several domains of social influence, ranging from the family to the larger society in which families, schools, and communities are embedded. Finally, the reciprocal interplay among social contexts and individual developmental pathways should be studied at several different levels of analysis from biological and psychological mechanisms to comparative analyses of large population groups. In this brief review, only a limited number of the relevant research dimensions is considered; these are outlined in figure 1 by generating a social-contextual model of risk for substance use during childhood and adolescence. Because substance use initiation during this early time of life can have long-term negative consequences well into adulthood, it is a particularly fruitful area for theoretical development. The illustration of a social-contextual model can, of course, be elaborated to include other life-course stages, social contexts, and levels of analysis.

As previously noted, the early predictors of substance use (e.g., association with deviant peers and faulty childrearing practices) are equally associated with delinquent or antisocial behavior in general. Indeed, conduct and substance use problems are highly interrelated (Hawkins et al. 1992), and a social-contextual model for substance abuse largely overlaps with related frameworks for explaining a multifaceted range of conduct problems. Thus, the following discussion draws on both the substance abuse and delinquency literatures to generate a social-contextual model of problem behaviors. Interestingly, individual difference variables play an important role in this social-contextual perspective, consistent with the view that behavior and context are reciprocally interrelated. First considered are important individual characteristics involving biological processes, emotional response, and cognitive functioning, which are then placed within the more general model.

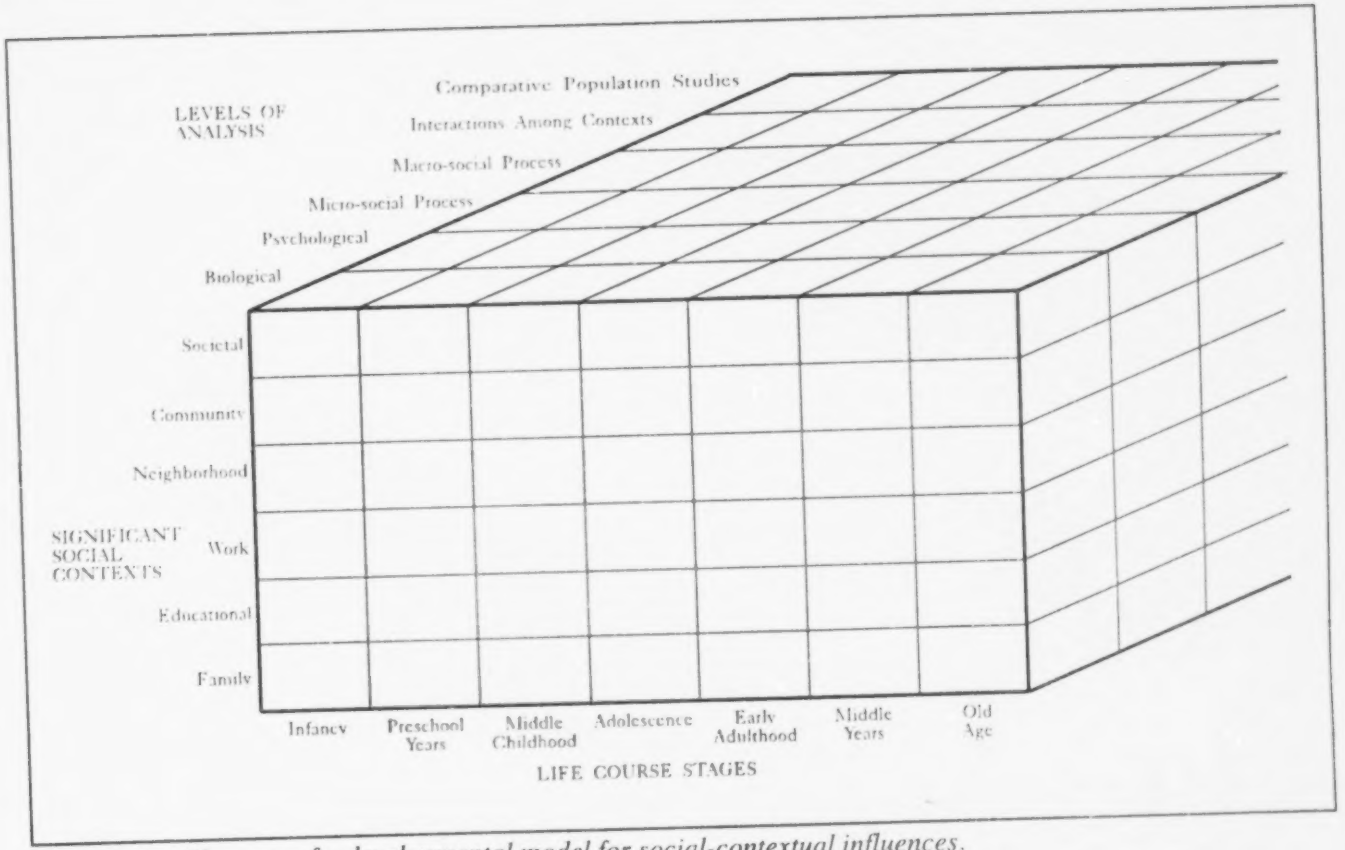

FIGURE 1. *Elements of a developmental model for social-contextual influences.*

Individual Characteristics in Social Context

The Role of Emotions. Research on social-contextual influences shows that humans and other animals demonstrate a range of negative emotional responses when positive outcomes in the social environment are lost or denied and when painful stimuli are experienced (Berkowitz 1989; Bolger et al. 1989; Conger et al. 1994*a*; Patterson et al. 1992). These emotional responses include antisocial behaviors such as aggression, anger, and irritability, as well as internalized symptoms such as depression and anxiety (Berkowitz 1989; Conger et al. 1994*a*; Simons et al. 1993). Moreover, negative moods such as depression also are associated with anger, irritability, and less socially competent behaviors, which again relates to a broad range of antisocial activities (Downey and Coyne 1990). These socially influenced emotions also predict involvement with alcohol and other drugs (Chassin et al. 1993; Sher et al. 1991), although the specific mechanisms for the association are not well understood (Hawkins et al. 1992; National Institute on Alcohol Abuse and Alcoholism (NIAAA) 1993).

It appears, then, that social-environmental contingencies have the capacity both to elicit as well as to shape or maintain problematic emotions or behaviors. The important point is that ongoing social constraints or contingencies may operate to exacerbate emotional characteristics that make an individual child or adolescent more vulnerable to substance abuse and other adjustment problems (Cairns 1991; Cairns and Cairns 1991; Hawkins et al. 1992). High levels of emotional distress may disrupt social interactional or academic skills, leaving the individual less capable of profiting from available reinforcement for conventional activities and increasing the salience of unconventional behaviors and environments. Thus, emotional dispositions are seen as an important corollary of environmental contingencies. These dispositions intensify an individual's tendency to behave in a hostile, aggressive, or irritable fashion. They also disrupt competent, socially desirable activities, and may lead directly to substance misuse as part of a negative reinforcement or stress-dampening process (NIAAA 1993). Although these emotional responses are affected by environmental events and conditions, they are also linked to basic biological processes.

The Role of Biological Processes. At the most basic level, biological processes are involved in the way children and adolescents learn, remember, think, behave, and make choices about future activities (White and Milner 1992). Consideration of these fundamental, biological substrates of human behavior are beyond the scope of this

review, but they certainly have significance for human behavior in general and, thus, for problem behaviors as well. Most important for the elaboration of a social-contextual model of substance abuse is work that has been conducted in the areas of genetic influences and what Moffitt (1993) has termed neuropsychological risk.

Turning first to conduct problems in general, perhaps no theoretical perspective has been more vigorously debated than the view that criminal or delinquent behavior is an inherited disposition (e.g., Gottfredson and Hirschi 1990). Current evidence suggests that there may well be a genetic vulnerability to antisocial conduct, but this vulnerability accounts for only some of the variance in delinquency (Plomin et al. 1994). In fact, Plomin, a leading behavioral geneticist, argues that the study of behavioral genetics has bolstered the argument for the importance of environmental influences on behavior. More specifically, "The same data that point to significant genetic influence provide the best available evidence for the importance of nongenetic factors. Rarely do behavioral-genetic data yield heritability estimates that exceed 50 percent, which means that behavioral variability is due at least as much to environment as to heredity" (Plomin and Rende 1991, p. 179).

Interestingly enough, delinquent behavior, compared to other forms of developmental disorders, tends to show the least evidence of heritability and the greatest evidence of shared environmental influences for siblings living in the same family (Plomin et al. 1994). Current empirical findings suggest relatively strong environmental compared to genetic influences on delinquency, and these influences appear to operate similarly for children raised in the same social environment. The results regarding the heritability of delinquency, then, suggest important environmental influences, consistent with a social-contextual approach that predicts developmental trajectories from the social contingencies available to children and adolescents. It is assumed that genetic factors affect vulnerability to con-duct problems, but their possible influence does nothing to diminish the importance of understanding how different environmental circumstances intensify or dilute the expression of genetically related behavioral dispositions.

In addition to considering their genetic roots, Moffitt (1993) has carefully reviewed the research literature regarding the environmental correlates of biological structure and process, as well as the link between biology and developmental characteristics related to delinquency. Moffitt notes that several dimensions of social disadvantage, such as poverty and

living in a high-crime-rate area, are also related to genetic and prenatal risks for biological insult. For example, parents living in the most disadvantaged circumstances are more likely to have an antisocial history themselves (see also Simons et al. 1993), suggesting possible genetic as well as social risks for child behavior problems. Children of such parents also are more likely to suffer poor nutrition and inadequate prenatal care, suggesting environmental risk for prenatal and postnatal biological development (Moffitt 1993).

Moffitt (1993) notes that a child with even minor biological anomalies, whether the result of genetic or environmental factors, appears to be at risk for poorer emotional regulation, behavioral control, and cognitive functioning. The picture that merges is one of biological influence on general competence for children who are thus less capable of acquiring appropriate social and academic skills. These deficits characterize youth at risk for delinquency, as has been noted in the general literature on crime and delinquency (Gottfredson and Hirschi 1990). It appears, then, that biology plays its strongest role in creating risk for delinquency by threatening the emotional, behavioral, and cognitive functioning of the individual child. A great deal of this biological risk appears to result from the same disadvantaged social environments that play a major role in a social-contextual perspective on delinquency.

Thus, in a fashion similar to difficulties in emotional functioning, genetically or environmentally induced biological deficits may reduce overall competence or exacerbate behavioral problems. These individual characteristics likely influence responsiveness to environmental contingencies related to reinforcement or punishment. For example, the academically less able will be less likely to be restrained from misconduct by the payoffs associated with academic performance (Conger 1976; Gottfredson and Hirschi 1990). The less competent child also may be more difficult to raise, thus decreasing the probability that a reciprocally reinforcing bond will develop between parent and child (Moffitt 1993). The important point is that biological deficits may affect the way in which an individual child or adolescent relates to multiple environmental contingencies, but they do not diminish the importance of those social influences.

But how does that evidence regarding biological influences on delinquent behavior relate to the explanation of substance abuse? First, the degree to which delinquency is heritable is quite consistent with estimates of heritability for substance use and abuse (Hawkins et al. 1992; Plomin et

al. 1994), again underscoring the interrelatedness of the two phenomena. Second, several dimensions of delinquency, such as behavior under-control, poor emotional regulation, and impulsive risky behaviors, both predict and are predicted by substance use (Elliott et al. 1989; Hawkins et al. 1992; Sher et al. 1991). These findings suggest that many biological substrates that may increase risk for other conduct problems may also increase risk for substance abuse (Cadoret et al. 1995).

Finally, in an especially important program of adoption research on the combined influence of biology and social experience on antisocial behavior and substance abuse, Cadoret and colleagues (in press) have shown that: (1) a history of biological parent substance abuse and/or antisocial conduct predicts antisocial behavior and substance abuse by adoptees; (2) this genetic history is most likely to manifest itself in a disrupted adoptive home environment; and (3) prenatal exposure to alcohol has an independent influence on later adoptee conduct problems net of the effects of genetic history and adoptive home environment. In summary, the available data suggest that delinquency and substance abuse are similarly influenced by biological factors; the genetic component of a biological predisposition to substance abuse and related conduct problems appears to become manifest largely in disrupted social environments; and social-contextual variables (e.g., poverty) affect biological development, which, in turn, affects antisocial and substance use behaviors.

The Role of Cognition. Cognitive variables also play an important role in various approaches to understanding delinquent and substance use behaviors. Sociologists often assert that beliefs or definitions regarding conventional or antisocial behavior are important factors in fostering or restraining conduct problems (Akers 1994; Hirschi 1969). More work on models of information processing or self-regulation also propose a central role for cognitive processes in child and adolescent adjustment problems (Crick and Dodge 1994; Feldman and Weinberger 1994). For example, Feldman and Weinberger (1994) showed that a sense of self-restraint reduces the likelihood of later delinquency. Consistent with a social-contextual approach, however, they also found that a youth's sense of self was strongly predicted by the quality of family relationships. Similarly, Crick and Dodge (1994) suggest that cognitive processes that affect conduct problems may derive substantially from interactions with others. Research specifically focusing on drug and alcohol use has also shown that favorable attitudes or expectations regarding use increase risk

and that these cognitions derive in large part from social-contextual factors (Hawkins et al. 1992; NIAAA 1993; Sher et al. 1991).

These findings are consistent with the thesis that cognitive processes (such as beliefs, values, expectations, and attributions regarding self and others) derive largely from social experience (see also Patterson et al. 1992). Although cognitions may play a mediating role between experience and action (e.g., Feldman and Weinberger 1994), it is expected that social contingencies play a major role in shaping cognitions as well as behavior. This is particularly apt to be the case during childhood and adolescence. There is rather strong evidence, for example, that aggressive boys tend to perceive other people as having hostile intentions (Crick and Dodge 1994). Although this is often labeled an information-processing bias, Patterson and associates (1992) note that the assumption of hostile intentions accurately reflects the interactional experiences, such as those occurring in their families, of the antisocial boys in their longitudinal studies. This finding suggests that the propensity of aggressive boys to perceive hostile intentions is more a reflection of their reality than a perceptual bias. Similarly, it is likely that children's perceptions of the positive or negative effects of tobacco, drugs, and alcohol are significantly related to their social experiences in the family, school, and community. When models for substance use are plentiful, when consumption is generally defined as acceptable and enjoyable, and when use is encouraged in proximal social settings, a child or adolescent will likely come to share these socially generated beliefs and practices, thus incurring increased risk for later substance use problems (Akers 1994; Conger and Rueter 1995; Hawkins et al. 1992). From this perspective, features of social contexts are a primary determinant of cognitions that may affect later conduct problems.

Taken together, the empirical data suggest that individual characteristics involving emotions, biological predispositions, and cognitive processes are intricately intertwined with social experience rather than being juxtaposed to it. Thus, a social-contextual approach to understanding substance use and abuse is not an alternative to individual-difference theories, but rather it provides a framework for identifying the dynamics through which social settings combine with the qualities of individuals to influence developmental trajectories of risk or resilience to substance abuse and related conduct problems. With these ideas in mind, it is appropriate to turn to consideration of a social-contextual model of child and adolescent substance use. Because of the limited scope of this review and the illustrative nature of the model, the focus is on the

immediate social contexts that appear to have the greatest impact on child and adolescent risk for the misuse of substances.

A Developmental Model of Proximal Social-Contextual Influences

Returning to figure 1, three social contexts would appear to have the most direct impact on child and adolescent risk for substance and conduct problems: family, school (educational), and neighborhood (which includes peer influences) (Chassin et al. 1993; Hawkins et al. 1992). These social contexts are affected by conditions and events at the community and societal levels, and by parents' employment, but these latter three contexts should only indirectly influence early development via family, school, and peers, and, thus, will not be considered here (for elaboration, see Conger and Elder 1994). Figure 1 also identifies the period of the life course that the following social-contextual perspective will address, infancy through adolescence. Previous research demonstrates that social experiences and behavioral dispositions present during these early years largely set the stage for adult conduct problems and disorders (Kessler et al. 1994; Sampson and Laub 1993); therefore, a theory of problem behaviors during these initial developmental periods also tells a great deal about the prospects for adulthood. Figure 2 provides an overview of the proposed social-contextual model of child/adolescent risk for conduct and substance-use problems.

The model provided in figure 2 draws upon the five general themes discussed earlier. First, consistent with the first two themes, the model shows that, in most instances, substance misuse during adolescence is the end result of a developmental progression beginning with behavioral dispositions such as oppositional conduct during the preschool years (Hawkins et al. 1992). Consistent with theme #3, the model shows that both early and later conduct problems find their social origins in the family; and consistent with theme #4, these early family influences produce a feedback loop through which the developing child affects and is affected by family processes and relationships. Theme #5 proposes that the behaviors of family members will be related to school, neighborhood, and peer characteristics, and these pathways are shown in the model. These broader social contexts also are shown to influence the family, primarily through their efforts on the child or adolescent. Finally the model takes into account the earlier noted role of genetic vulnerabilities and their interrelations with social context. Genetic influences

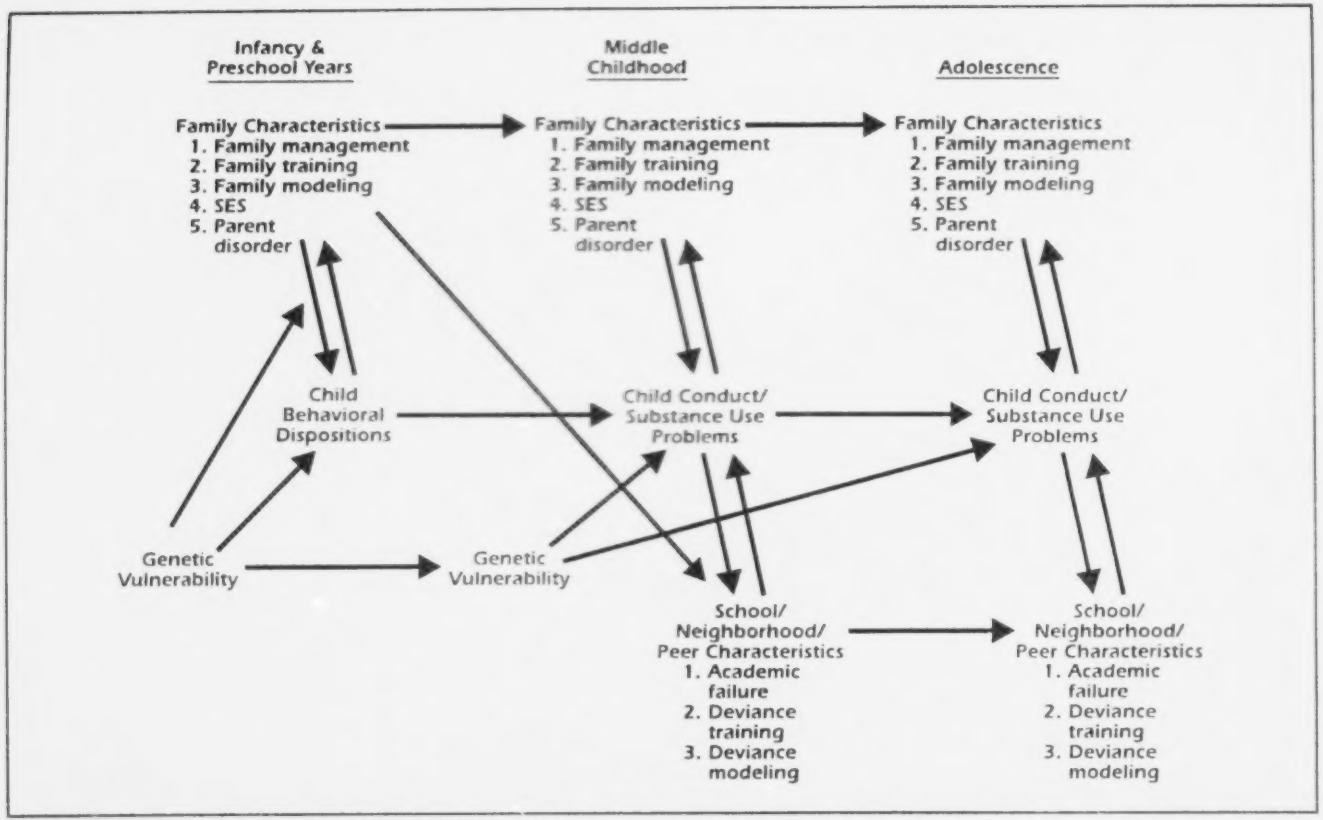

FIGURE 2. *A social-contextual model of child/adolescent risk for conduct and substance use problems.*

are kept separate from immediate family characteristics because some individuals who importantly contribute to biological heritage (e.g., absent fathers) may not be in the home. The following, more detailed discussion of the model begins with early family influences.

Family Processes and Child Oppositional Behaviors. As shown in the model (figure 1), it is proposed that the primary social context for the development of early antisocial behaviors (such as temper tantrums and noncompliance) during the preschool years will be the family. As noted, these early behavioral problems predict to a number of adjustment difficulties, including later substance use and delinquency. Although many theorists equate family influences only with parents' behaviors, a growing body of literature suggests that other family members, especially siblings and alternative caregivers such as grandparents (Conger and Rueter 1995; Kellam 1990; Lauritsen 1993; Patterson 1988) may have a powerful influence on early conduct problems and later substance use. Most important for purposes of this discussion is the fact that the family itself is a source of multiple environmental influences. Behavior by one family member that fails to restrain or that actually reinforces child misconduct constitutes only one part of the family system and such behavior may be at least partially negated by effective, prosocial behaviors from other family members (e.g., Conger et al. 1994*b*; Egeland et al. 1993; Elder and Caspi 1988; Werner 1993).

With multiple family members, the young child may be presented with multiple and differing contingencies regarding reinforcement, punishment, and modeling of substance use and other antisocial behaviors. For example, Elder and Caspi (1988) showed that arbitrary and irritable behavior by fathers exacerbated conduct problems of preschool children only when mother was aloof and unavailable. The presence of an effective mother, even with significant exposure to what one would label an antisocial father, created an alternative set of environmental contingencies that protected against the development of childhood problem behaviors. Conger and colleagues (1994*b*) identified a similar process during early adolescence. They found that older sibling alcohol abuse predicted drinking problems for an early adolescent in the family only when parents were hostile, coercive, and uninvolved in the focal child's life. Sibling drinking had no effect on a younger adolescent's substance use when parents were meeting their childrearing obligations.

How, specifically, do these observed family processes influence child development? It was noted earlier that there is a broad range of empirical

support for the notion that children will be at risk for antisocial behavior if their parents: (1) fail to adequately supervise their activities, (2) do not appropriately discipline them for misconduct, (3) treat children in a hostile or rejecting fashion, and (4) fail to provide approval or other forms of support for conventional or socially desirable behavior. These parental activities relate to dimensions of management, training, and modeling as shown in figure 2. The core of the model involves parental supervision. Parents who do not track, monitor, or otherwise supervise their child's behavior cannot respond contingently to either the child's antisocial or conventional activities (Conger et al. 1992; Gottfredson and Hirschi 1990; Patterson et al. 1992).

Nuturant and Involved Childrearing Practices. On the positive side of the equation, parents who track the activities of the young child will be in a position to provide approval or other forms of material or social benefits when the youngster meets appropriate, conventional standards for conduct that take into account the cognitive, emotional, and motor capacities available at a particular age. This scenario provides a classic example of positive reinforcement through which a particular activity is maintained or strengthened because of the valued outcomes it elicits from the environment. These positively reinforcing behaviors of parents should not only influence differential rates of socially approved child behaviors, they should also affect allocation of time. A developmental history of living in a welcoming and approving home environment should make wandering on the streets with potentially deviant companions less attractive as the child ages and has such opportunities.

Thus, warm and supportive behaviors by parents in general, according to the model, should increase time spent in the conventional surrounds of the home environment, similar to Simmon and Blyth's (1987) conception of the well-functioning family as an "arena of comfort" for children. Moreover, both the positive reinforcement of socially appropriate behavior and the concomitant modeling of such activities by parents should strengthen conventional behaviors by children. A corollary of this process is the acquisition of social skills that will assist the child as he or she becomes increasingly involved outside the home in school, in the community, and with peers (Conger et al. 1992, 1993; Patterson et al. 1992). These skills, in turn, should increase the probability that the child will elicit positively reinforcing outcomes such as acceptance and approval in other conventional environments such as school. These valued outcomes, again, should increase time allocated to conventional activities and environments, thus reducing the time available for unsupervised wandering or associations

with deviant companions. Failures by parents to provide these positive experiences will increase risk for child conduct problems both directly as well as indirectly through their relation with peer, school, and neighborhood influences.

Equally, and in some ways perhaps even more important than positive reinforcement contingencies, are family processes that directly punish misconduct or that lead to avoidance conditioning (see Patterson 1988). In the language of operant psychology, punishment occurs when an unpleasant outcome is contingent on a particular response, which, as a consequence of this contingency, is reduced in strength. That is, when particular behaviors regularly lead to aversive outcomes over time, such behaviors should decrease in frequency as a result of these punishing responses. The whole process is labeled punishment. The research shows that when misconduct leads to appropriate and consistent disciplinary action that is not overly harsh or violent (e.g., parent disapproval or withdrawal of valued benefits such as television viewing), the likelihood of child antisocial behavior, including the use of substances, is reduced (Hawkins et al. 1992; Patterson et al. 1992; Sampson and Laub 1993). Young children, of course, come with an extensive repertoire of behaviors such as yelling, kicking, and crying that become increasingly unacceptable with age (Moffitt 1993; Patterson 1982). If these behaviors do not decline to acceptable levels as a result of effective disciplinary practices, the young child is at increased risk for failures in school and peer relations, difficulties that become part of an antisocial syndrome predictive of later delinquent and substance-related activities (Conger and Rueter 1995; Moffitt 1993; Sampson and Laub 1993; Simons et al. 1994*a*).

More generally, it can be expected that consistency across family members (e.g., mother, father, older sibling, and extended relations) in supervision, positive reinforcement for conventional behavior, and appropriate discipline will create an environment in which the varied family relationships available to the child provide social contingencies most likely to reduce risk for antisocial conduct and to increase the probability of success in extrafamilial settings. More specifically, under such conditions the preschool child can maximize benefits and minimize costs across multiple family relationships by engaging in relatively more socially appropriate and relatively fewer antisocial activities. Moreover, children will be more likely to spend time in such a family setting. Failures in consistency across family members should increase risk for conduct problems, but the research tends to show that even one effective caregiver can have an important protective influence (e.g., Egeland et al. 1993).

Hostile, Rejecting, and Coercive Childrearing. In addition to supervision, positive parenting, and a consistent discipline, hostile, rejecting, or coercive parenting has been identified as a risk factor for child conduct problems. Consistent with figure 2, it is expected that parental behaviors of this type affect the young child in at least three ways by (1) providing a model for antisocial conduct, (2) promoting direct training for antisocial behavior, and, (3) in some cases, linking hostile social interactions within the family to a broader network of antisocial and even criminal activities associated with substance abuse. Hostile and rejecting behaviors by parents, both to a specific child and to other family members, model an approach to conducting social relationships that can be mimicked by the young child both within and outside the family. Highly antisocial families typically demonstrate significant levels of aversive interaction (Patterson 1982). Observational learning should lead to the acquisition of similar behavioral tendencies at an early age.

The thesis here, however, is that behaviors must produce some benefit in the environment for them to be maintained across time. A paper by Snyder and Patterson (1995) has demonstrated that such contingencies appear to exist in the families of young, aggressive boys. The authors showed that, for highly antisocial children, aggressive behaviors were likely to terminate the aversive intrusions of mothers. This finding suggests a negative reinforcement process, or avoidance conditioning, in which the child escapes a negative environmental situation (mother's aversive behavior) through aggressive behavior toward the parent. For nonaggressive boys, Snyder and Patterson found that prosocial verbal behavior was an effective means for reducing aversive actions by mothers. Overall, they showed that both level of mother's aversive behavior (suggesting an observational or modeling influence) and mother's contingent reduction of her aversiveness in response to son's aggression (a training effect) were positively and independently related to the frequency of the young child's aggression. Although these findings are suggestive, they need to be replicated with larger samples and with girls as well as boys.

Very little research exists that can provide evidence for the third proposed route of influence for hostile and rejecting parental behavior (i.e., its link to a broader network of antisocial or even criminal conduct in the home). Perhaps most pertinent to this thesis is a report by Richters and Martinez (1993) in which it was found that young children exposed to guns or drugs at home were at high risk for developing behavioral problems and

BEST COPY AVAILABLE

for failing in the early years of elementary school. These adjustment difficulties are established precursors of later substance abuse (Chassin et al. 1993; Elliott et al. 1989; Hawkins et al. 1992). These results also are consistent with other work linking antisocial and criminal conduct by parents to failures in child management skills (Patterson et al. 1992; Sampson and Laub 1993; Simons et al. 1993). It is expected that actual criminal activities by parents or siblings are associated with a generally aversive home environment and that exposure by young children to this degree of antisocial behavior creates a learning situation conducive to experimenting with such behaviors outside the home (Conger et al. 1994*b*; Melby et al. 1993).

Biology, Emotions, and Cognition. It was suggested earlier that there should be a connection between these early environmental influences and children's biological, cognitive, and emotional functioning. As noted, young children may be genetically or environmentally disposed to a biological constitution that either increases the probability of oppositional, noncompliant, and aversive behaviors during the preschool years and/or leads to deficits in learning skills related to prosocial behaviors such as failing to understand the connection between one's own actions and other's response. In this writer's view, these individual differences may create greater or fewer difficulties for family members attempting to socialize the young child, but they do not negate the influence of the multiple family contingencies just described, except in extreme cases of severe biological dysfunction. More generally, it is expected that the reinforcement and punishment processes just described will affect the behavior of most children, but their influence will be conditioned to some degree by a given child's unique biological development. These biological components are included in the model (figure 2) in two ways: through pathways related to genetic vulnerability, and through biologically based aspects of behavioral dispositions that might result from a severely disadvantaged family environment (i.e., low family SES) or from prenatal insults associated with parental disorder (e.g., mother's substance abuse during pregnancy).

Also consistent with earlier discussion, one can expect that these family processes will elicit different emotional responses from young children. In particular, a highly aversive family environment should elicit negative feelings that range from sadness to anger (Conger et al. 1994*a*; Richters and Martinez 1993). Consistent with this thesis, in a public television special on inner-city life (Iowa Public Television 1994), several young African-American males who experienced violence both at home and in

the community described themselves as feeling anxious, hopeless, and angry at themselves and others. Such negative emotions impair the development of social and instrumental competencies and also increase risk for later substance abuse (Berkowitz 1989; Chassin et al. 1993; Downey and Coyne 1990; Hawkins et al. 1992), placing the young child at risk for problems within and outside the family. Socialization practices that are clear, consistent, and supportive, on the other hand, should reduce these negative feelings and their possible adverse consequences (Conger et al. 1992, 1993). As with biologically related characteristics, environmentally linked emotions should condition, but not negate the impact of family contingencies on the behavior of the young child. In the social contextual framework presented here (figure 2), the emotional correlates of substance use and related conduct problems are not specified separately but are assumed to be part of the dispositional and adjustment difficulties included in the model.

Finally, these early family experiences will influence the cognitive development of the child. They should make children more or less able to adapt to the early school years, and they may generate attributions about self and others that will affect their ability to socialize appropriately with peers and teachers (Crick and Dodge 1994). Research on the associations among family experience, social cognitions, and later child and adolescent behavior is in its infancy. At this point, no one can say whether these cognitions have a causal influence on social development or whether they are simply one more consequence of the multiple learning contingencies influencing a child's life. Research will be needed to clarify these connections (Patterson 1993). Neither emotions nor cognitive influences are elaborated in the model, but it is assumed that they are an integral part of the specified adjustment problems. Future development of the model, of course, will need to consider the sequencing of biological, emotional, and cognitive variables in greater detail.

Family Substance Use, Parent Disorder, and Socioeconomic Status. Family modeling of antisocial behavior relates not only to child oppositional acts but also to substance use. Parents who are highly antisocial (e.g., through aggressiveness in interpersonal relations) are also more likely to abuse substances and to experience difficulties in life such as work problems (Gottfredson and Hirschi 1990). When parents and siblings drink, smoke, or use illegal drugs, other children in the family are likely to emulate these behaviors and to associate with substance-using peers who reinforce such activities (Chassin et al. 1993; Conger et al. 1994*b*; Conger and Rueter 1995; Hawkins et al. 1992; Melby et al.

BEST COPY AVAILABLE

1993). Parent substance abuse also acts in a fashion similar to other psychiatric disorders to disrupt effective child management practices and to intensify hostile/coercive parenting, both of which increase a child's risk for adjustment problems (Chassin et al. 1993; Downey and Coyne 1990). Low parental socioeconomic status and family economic problems are related to parent emotional difficulties as well (Conger and Elder 1994).

Moreover, low SES parents often must locate in low-income areas with higher rates of delinquency and substance abuse, thus increasing the child's risk for social reinforcement of such behaviors by peers at school or in the neighborhood. As shown in figure 2, these extrafamilial influences relate back to family processes primarily through their affect on the child's conduct and substance-use problems. One can also expect that substance use by other family members and by peers will affect the child's cognitive appraisals regarding the appropriateness or value of using alcohol, tobacco, or other drugs. That is, children who observe other family members smoking, drinking, or using drugs, or who hear other family members discuss such behaviors in positive terms, will be more likely to acquire beliefs or attitudes consonant with substance use (Hawkins et al. 1992).

Reciprocity in the Family. As shown in figure 2, just as parents, siblings and other kin provide social contingencies for the behavior of the young child, the child plays a similar role for other family members. Consider, for example, a highly antisocial parent who is hostile, coercive, and rejecting toward the child, as well as toward other family members, and who has few childrearing skills. The parent does not carefully monitor or provide appropriate consequences for the child's behavior. The parent's prototypical response to misbehavior will likely involve angry threats or harsh punishment meted out in an inconsistent fashion. In these circumstances, one would predict that the child will emulate the parent's style by attempting to control the parent's behavior through aggressive actions. Consistent with this thesis, Snyder and Patterson (1995) found that mothers and young aggressive children both negatively reinforced one another's aversive behaviors and also reciprocated one another's aggressivity. In a similar fashion, a substance-abusing parent may inculcate such behavior in the child. The youngster's behavior may create problems at school, with peers who are not involved in antisocial activities, and in the home. Thus, the acts of the parents will initiate a feedback loop that further impairs childrearing skills.

In a truly antisocial family, with multiple relationships involving similar dynamics, the young child rapidly develops an interactional style that is unpleasant for other family members, but there is no realization within the family about the basis for this outcome (Conger et al. 1994*a*). That is, through all the yelling and disagreement, parents do not realize that the anger directed toward them by the child is, in large part, a function of their own hostile behaviors coupled with their failure to provide appropriate and consistent contingencies for the prosocial and antisocial behavior of their child. This type of family environment increases risk for internalizing, externalizing, and substance use problems by the child and adolescent (Chassin et al. 1993; Conger and Rueter 1995; Hawkins et al. 1992).

A child who is or becomes particularly difficult to socialize will be a source of punishment for a parent or for other family members. Oftentimes, it is the disadvantaged and otherwise challenged parent who is likely to face the difficulty of a hard-to-control youngster (Moffitt 1993). The model in figure 2 predicts that the response contingencies provided by a troubled child will, over time, lead to withdrawal of parental time, childrearing effort, and attention. If the parent can do nothing to cope effectively with the situation, and especially if the parent does not have the skills needed to deal with a difficult child, the model suggests that over the years the parent should elect to spend relatively less time and effort in the relationship with the poorly adjusted child or adolescent.

In a dysfunctional family, with many antisocial or substance-abusing members, a child's behavioral problems add to the ongoing tensions and conflicts, thus producing further deterioration in parental skills and childrearing activities (see Patterson et al. 1992). The child's own behavior exacerbates and adds to an antisocial family system. These processes are matters of degree, of course, and should escalate into disaster only in the most extreme situations. From a research perspective, very little is known about how these processes of animosity, rejection, and possible disengagement occur. Research is needed to determine how these contingent, reciprocal processes develop across time, and, in the worst situations, lead to abdication of the parental role or to high levels of violence or aggression in multiple family relationships.

From Family to Peer, School, and Neighborhood Relations. The child from a highly antisocial family environment likely will enter school and begin to interact with peers with a well-developed repertoire of oppositional behaviors and few prosocial skills. Once outside the home environment, the child has an increasingly broad selection of possible

BEST COPY AVAILABLE

interactional contexts (see figure 2). The primary opportunities for social involvement will be with peers, in school, or in the neighborhood.

According to the social-contextual model, a child should invest time and effort in those environments that provide the greatest benefits and generate the fewest costs. For a poorly skilled, conduct-problem child from an antisocial family, school will likely be a punitive experience with little chance for academic success and a high probability of disapproval from teachers. School personnel, just like parents, are likely to find interactions with an antisocial child to be extremely aversive, and one would expect that personnel are more likely to invest time and effort in more rewarding children. Even in those situations where teachers make a determined effort to help a troubled youth, highly antisocial parents are unlikely to be cooperative partners in these activities, thus making success even more difficult to achieve.

Just as school success is likely to elude the young, antisocial child, so too does success with peers who are not antisocial (Parker and Asher 1993). The evidence also shows, however, that antisocial youngsters will find friends who have characteristics similar to their own, and these friends will actively reinforce one another's antisocial and substance use behaviors (Chassin et al. 1993; Conger and Rueter 1995; Dishion et al. 1995; Dishion et al. 1994). Contrary to earlier notions that youth with conduct problems do not have close social ties, there is now ample evidence that deviant youngsters form friendships that frequently involve approval for delinquent and substance use behaviors (Chassin et al. 1993; Dishion et al. 1995; Hawkins et al. 1992; Warr and Stafford 1991). Most important, peer reinforcement for conduct problems leads to increases in such behavior across time (Thornberry et al. 1994).

Again, a social-contextual approach suggests that low levels of positive reinforcement for normative behaviors from home, school, and relations with conventional peers, as well as noxious experiences or failures in those environments, should lead to more time and energy being invested in environments in which social approval is available (figure 2). The setting that appears to increase the probability of social reinforcement for the young antisocial child appears to be the environment provided by deviant peers. Importantly, the individual youth contributes to this environment by providing similar reinforcement to his or her deviant friends in a reciprocal process. Also important, these deviant peer relations appear to develop during childhood, before adolescence. Moreover, they foster behavior, such as wandering on the street, that minimizes contact with conventional

environments and adult influence and maximizes adventures with similarly antisocial friends (Patterson 1993).

Thus, the social-contextual perspective suggests a developmental sequence, beginning in the family, whereby childhood oppositional behavior and exposure to family misuse of substances dramatically increase risk for later adolescent crime, delinquency, and substance use. When substance use is prevalent in the family, it grants the school-aged child permission to use and also disrupts effective childrearing. Children who grow up in a family characterized by hostile sibling interaction and inept parenting suffer serious social skill deficits. They are aggressive and defiant in their interactions with others, which causes them to be rejected by conventional peers. These socially rejected youth are attracted to each other and form a deviant peer group, which provides a training ground for experimenting with substances and for learning to commit delinquent or criminal acts (see Thornberry et al. 1993). Ultimately, this developmental sequence influences rates of delinquent behavior and substance use at the neighborhood level. Thus, it is proposed that the neighborhood affects individual development, which, in a reciprocal process, influences the quality of neighborhood life.

RESEARCH IMPLICATIONS OF THE SOCIAL-CONTEXTUAL MODEL

The preceding discussion shows that, when the study of social contextual influences is placed within a broader developmental framework, issues of context can be combined with a focus on individual differences to produce a dynamic model of how person and environment interact to produce trajectories of risk or resilience for substance use and abuse. This complex, process-oriented framework improves upon social influence models that neglect the role of individual characteristics as they affect social environments, and it also improves upon individual difference models that neglect the role of social context in shaping individual development. The complexity and developmental nature of the framework, however, place new demands on researchers and on funding agencies in terms of the types of research needed to evaluate developmental change across time within and between relevant social contexts.

To study adequately the full scope of a developmental, social-contextual model, future research must consider the interplay between individual behaviors and social contingencies across time. This approach to social

BEST COPY AVAILABLE

and behavioral research has become more common in recent years; however, the time lags between assessments have often been too large to really provide an understanding of dynamic process in the development of risk for substance misuse (e.g., Jessor et al. 1991). Especially important will be studies of developmental sequences that create risk for or protect against future conduct and substance use problems. For example, very little is known about the mechanisms through which early oppositional behaviors by children affect the childrearing skills of parents. How is it that some parents can deal effectively with these early behavioral difficulties and others can not? Reciprocal processes in parent-child interactions need to be studied during the preschool and elementary school years to contribute to the understanding of the dispositional precursors of later antisocial and substance use behaviors. Such research needs to consider the role of biological, cognitive, and emotional factors for both parents and children in these interactional processes.

As children age and begin to function in social settings outside the home, detailed analyses will be required that trace the influence of home environment through child behavior to these extrafamilial social contexts. How, specifically, do oppositional children from troubled families initiate friendships with similar peers? What are the processes through which these elementary school social ties reinforce deviant activities? The current literature tells a great deal about broad associations between individual behavior and peer characteristics, but provides very little information about the social processes underlying such associations. More adequate empirical information about the dynamic qualities of parent-child and child-peer relationships can lead to the design of more effective early preventive interventions to reduce risk for later conduct problems. Given the known difficulties in attempts to change serious antisocial or substance use behaviors after they occur, such early interventions hold the greatest promise for significantly reducing the prevalence of such problems.

The social-contextual model also suggests that the microsocial processes involving family and peer relationships need to be placed in a broader community context. As indicated by the model, future research needs to examine how relationships between family and other community contexts affect the life course of youth. For example, how do families living in disadvantaged, high-risk areas come together through ties in the neighborhood, the school, political institutions, work settings, or churches to protect their children against such risks? How do parents continue to function as effective caregivers even when severely stressed by job loss or other family crises? This author believes that an emphasis on research

across the rural-urban continuum is desperately needed to adequately address these questions. Small rural communities traditionally have enjoyed the strong social ties among adults within multiple community institutions that should improve the monitoring of children's activities and reduce risks for substance use and related conduct problems. The downward economic fortunes of rural communities in recent years, however, have disrupted the adult social networks in many of these towns and villages (Conger and Elder 1994).

Thus, the changing nature of life, which parallels in several ways the misfortunes of many central cities (O'Hare and Curry-White 1992), provides variation in social context that can be used to advantage in studying the role of community influences on child, adolescent, and adult behavioral, emotional, and substance use problems. Moreover, by studying a continuum of communities from the smallest villages to medium-sized cities, such research can identify the degree to which social-contextual influences are simply a function of size of place versus specific activities undertaken by community members. That is, does the close social environment of small communities necessarily lead to social control processes that protect against child behavioral problems, or does close proximity promote adult interactions that could be emulated in larger cities as well as the rural countryside? It can be expected that rural communities will vary in these social control processes and that they are based on specific parent initiatives that could be used in more urban settings. If this assumption can be demonstrated to be true, the lessons learned could significantly improve community-level prevention programs instituted in both rural and urban places.

Clearly, the research agenda required to pursue a developmental approach to the study of social-contextual influences will be demanding, time consuming, and expensive. It requires expertise from multiple disciplines, including developmental and clinical psychology, psychiatry, sociology, and statistics, to mention only a few. If the genetic or other biological substrates suggested by the model are included in a particular program of research, behavioral geneticists and other disciplines from the biological and medical sciences will be required on the research team as well. Large sample sizes will also be needed to assure variation in community and neighborhood characteristics, factors related to risk for substance abuse, and variation in substance use and related psychiatric disorders. For genetically informed research designs, adoption, twin, or other types of sibling strategies must be used. Despite the cost and complexity, the author's view is that significant advances in understanding of substance use problems, and the ability to prevent or treat them, can only be

BEST COPY AVAILABLE

achieved by conducting research that allows the examination of individual development across time within the social contexts that affect it. Research reflecting the rural/urban continuum should be a major component of such investigations.

With this general social-contextual framework in mind, the discussion later in this volume turns to the special qualities of rural America that have importance for studying, understanding, and preventing substance use and abuse. To fully test the elements in the social-contextual model and to effectively apply them to reducing rates of substance abuse, research must be conducted that encompasses the full range of possible variations in family, neighborhood, and community characteristics. Without research on rural populations, variations along these social dimensions will be truncated and research findings will be unable to adequately test either their theoretical or practical importance. Indeed, a later discussion argues that the study of rural people is as important for understanding and preventing substance abuse in urban as it is in rural places.

REFERENCES

Akers, R.L. *Criminological Theories: Introduction and Evaluation*. Los Angeles: Roxbury Publishing, 1994.

Berkowitz, L. Frustration-aggression hypothesis: Examination and reformulation. *Psychol Bull* 106:59-73, 1989.

Bolger, N.; DeLongis, A.; Kessler, R.; and Schilling, E. Effects of daily stress on negative mood. *J Personal Soc Psychol* 57:808-818, 1989.

Cadoret, R.J.; Yates, W.R.; Troughton, E.; Woodworth, G.; and Stewart, M.A. Adoption study demonstrating two genetic pathways to drug abuse. *Arch Gen Psychiatry* 52:42-52, 1995.

Cadoret, R.J.; Yates, W.R.; Troughton, E.; Woodworth, G.; and Stewart, M.A. Gene-environment interaction in genesis of aggressivity and conduct disorders. *Arch Gen Psychiatry*, in press.

Cairns, R.B. Multiple metaphors for a singular idea. *Devel Psychol* 27:23-26, 1991.

Cairns, R.B., and Cairns, B.D. Social cognition and social networks: A developmental perspective. In: Pepler, D.J., and Rubin, K.H., eds. *The Development and Treatment of Childhood Aggression*. Hillsdale, NJ: Erlbaum, 1991. pp. 249-285.

Chassin, L.; Pillow, D.R.; Curran, P.J.; Molina, B.S.G.; and Barrera, M., Jr. Relations of parental alcoholism to early adolescent substance use: A test of three mediation mechanisms. *J Abnorm Psychol* 102:3-19, 1993.

Conger, R.D. Social control and social learning models of delinquent behavior: A synthesis. *Criminology* 14:17-40, 1976.

Conger, R.D., and Elder, Jr., G.H. *Families in Troubled Times: Adapting to Change in Rural America*. Hawthorne, NY: Aldine, 1994.

Conger, R.D., and Rueter, M.A. Siblings, parents, and peers: A longitudinal study of social influences in adolescent risk for alcohol use and abuse. In: Brody, G., ed. *Sibling Relationships: Their Causes and Consequences*. Norwood, NJ: Ablex Publishing, 1995.

Conger, R.D., and Simons, R.L. Life-course contingencies in the development of adolescent antisocial behavior: A matching law approach. In: Thornberry, T., ed. *Developmental Theories of Crime and Delinquency*. New Brunswick, NJ: Transaction Books, 1995.

Conger, R.D.; Conger, K.J.; Elder, Jr., G.H.; Lorenz, F.; Simons, R.; and Whitbeck, L. A family process model of economic hardship and adjustment of early adolescent boys. *Child Devel* 63:526-541, 1992.

Conger, R.D.; Conger, K.J.; Elder, Jr., G.H.; Lorenz, F.; Simons, R.; and Whitbeck, L. Family economic stress and adjustment of early adolescent girls. *Devel Psychol* 29:209-219, 1993.

Conger, R.D.; Ge, X.; Elder, G.H., Jr.; Lorenz, F.O.; and Simons, R.L. Economic stress, coercive family process, and developmental problems of adolescents. *Child Devel* 65:541-561, 1994*a*.

Conger, R.D.; Rueter, M.A.; and Conger, K.J. The family context of adolescent vulnerability and resilience to alcohol use and abuse. *Sociolog Stud Child* 6:55-86, 1994*b*.

Crick, N.R., and Dodge, K.A. A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychol Bull* 115:74-101, 1994.

Dishion, T.J.; Andrews, D.W.; and Crosby, L. Antisocial boys and their friends in early adolescence: Relationships characteristics, quality and interactional process. *Child Devel* 66:139-151, 1995.

Dishion, T.J.; Patterson, G.W.; and Griesler, P.C. Peer adaptions in the development of antisocial behavior. A confluence model. In: Huesmann, L.R., ed. *Aggressive Behavior: Current Perspectives*. New York: Plenum Press, 1994. pp. 61-95.

Downey, G., and Coyne, J.C. Children of depressed parents: An integrative review. *Psychol Bull* 108:50-76, 1990.

Egeland, B.; Carlson, E.; and Sroufe, L.A. Resilience as process. *Devel Psychopathol* 5:517-528, 1993.

Elder, G.H., Jr., and Caspi, A. Economic stress in lives: Developmental perspectives. *J Social Issues* 44:25-45, 1988.

Elliott, D.S.; Huizinga, D.; and Menard, S. *Multiple Problem Youth: Delinquency, Substance Use, and Mental Health Problems*. New York: Springer-Verlag, 1989.

Feldman, S.S., and Weinberger, D.A. Self-restraint as a mediator of family influences on boys' delinquent behavior: A longitudinal study. *Child Devel* 65:195-211, 1994.

Gottfredson, M.R., and Hirschi, T. *A General Theory of Crime*. Stanford, CA: Stanford University Press, 1990.

Hawkins, J.D.; Catalano, R.F.; and Miller, J.Y. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychol Bull* 112:64-105, 1992.

Hirschi, T. *Causes of Delinquency*. Berkeley, CA: University of California Press, 1969.

Iowa Public Television. "Surviving the Odds: To Be a Young, Black Male in America." April 19, 1994.

Jessor, R.; Donovan, J.E.; and Costa, F.M. *Beyond Adolescence: Problem Behavior and Young Adult Development*. New York: Cambridge, 1991.

Kellam, S.G. Developmental epidemiological framework for family research in depression and aggression. In: Patterson, G.R., ed. *Depression and Aggression in Family Interaction*. Hillsdale, NJ: Erlbaum, 1990. pp. 11-48.

Kessler, R.C.; McGonagle, K.A.; Zhao, S.; Nelson, C.B.; Hughes, M.; Eshleman, S.; Wittchen, H.; and Kendler, K.S. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the national comorbidity study. *Arch Gen Psychiatry* 51:81-89, 1994.

Lauritsen, J.L. Sibling resemblance in juvenile delinquency: Findings from the National Youth Survey. *Criminology* 31:387-409, 1993.

Loeber, R., and LeBlanc, M. Toward a developmental criminology. In: Tonry, J., and Morris, N., eds. *Crime and Justice*. Vol. 12. Chicago: University of Chicago Press, 1990.

Loeber, R., and Stouthamer-Loeber, M. Family factors as correlates and predictors of juvenile conduct problems and delinquency. In: Tonry, M., and Morris, N., eds. *Crime and Justice*. Vol. 7. Chicago: University of Chicago Press, 1986.

Lytton, H. Child and parent effects in boys' conduct disorder: A reinterpretation. *Devel Psychol* 26:683-697, 1990.

Melby, J.N.; Conger, R.D.; Conger, K.J.; and Lorenz, F.O. Effects of parental behavior on tobacco use by young adolescent males. *J Marriage Fam* 55:439-454, 1993.

Moffitt, T.E. Adolescence—limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychol Rev* 100:674-701, 1993.

National Institute on Alcohol Abuse and Alcoholism. *Alcohol and Health*. Washington, DC: U.S. Department of Health and Human Services, 1993.

O'Hare, W.P., and Curry-White, B. *The Rural Underclass: Examination of Multiple-problem Populations in Urban and Rural Settings*. Washington, DC: Population Reference Bureau, 1992.

Parker, J.G., and Asher, S.R. Friendships and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Devel Psychol* 29:611-621, 1993.

Patterson, G.R. *Coercive Family Process*. Eugene, OR: Castalia, 1982.

Patterson, G.R. Family process: Loops, levels, and linkages. In: Bolger, N.; Caspi, A.; Downey, G.; and Moorehouse, M., eds. *Persons in Context: Developmental Processes*. New York: Cambridge University Press, 1988. pp. 114-151.

Patterson, G.R. Orderly change in a stable world: The antisocial trait as a chimera. *J Consult Clin Psychol* 61:911-919, 1993.

Patterson, G.R.; Reid, J.B.; and Dishion, T.J. *Antisocial Boys*. Eugene, OR: Castalia Publishing, 1992.

Plomin, R., and Rende, R. Human behavioral genetics. In: Rosenzweig, M.R., and Porter, R.L., eds. *Annual Review of Psychology*. Vol. 42. Palo Alto, CA: Annual Reviews, Inc., 1991. pp. 161-190.

Plomin, R.; Chipuer, H.M.; and Neiderhiser, J.M. Behavioral genetic evidence for the importance of nonshared environment. In: Heatherington, E.M.; Reiss, D.; and Plomin, R., eds. *Separate Social Worlds of Siblings: The Impact of Nonshared Environment on Development*. Hillsdale, NJ: Erlbaum, 1994. pp. 1-31.

Reiss, D.; Richters, J.E.; Radke-Yarrow, M.; and Scharff, D. *Children and Violence*. New York: The Guilford Press, 1993.

Richters, J.E., and Martinez, P.E. Violent communities, family choices, and children's chances: An algorithm for improving the odds. *Devel Psychopathol* 5:609-627, 1993.

Sampson, R.J., and Groves, W.B. Community structure and crime: Testing social-disorganization theory. *Am J Sociol* 94:774-802, 1989.

Sampson, R.J., and Laub, J.H. *Crime in the Making: Pathways and Turning Points Through Life*. Cambridge, MA: Harvard University Press, 1993.

Sher, K.J.; Walitzer, K.S.; Wood, P.K.; and Brent, E.E. Characteristics of children of alcoholics: Putative risk factors, substance use and abuse, and psychopathology. *J Ab Psychol* 100:427-488, 1991.

Simmons, R.G., and Blyth, D.A. *Moving Into Adolescence: The Impact of Pubertal Change and School Context*. New York: Aldine de Gruyter, 1987.

Simons, R.L.; Lorenz, F.O.; Wu, C.; and Conger, R.D. Social network and marital support as mediators and moderators of the impact of economic pressure on parenting. *Devel Psychol* 29:368-381, 1993.

Simons, R.L.; Whitbeck, L.B.; Beaman, W.J.; and Conger, R.D. The impact of mother's parenting, involvement by nonresidential fathers, and parental conflict on the adjustment of adolescent children. *J Marriage Fam* 56:356-374, 1994*b*.

Simons, R.L.; Wu, C.; Conger, R.D.; and Lorenz, F.O. Two routes to delinquency: Differences between early and late starters in the impact of parenting and deviant peers. *Criminology* 32:247-276, 1994*a*.

Snyder, J., and Patterson, G.R. Individual differences in social aggression: A test of a reinforcement model of socialization in the natural environment. *Behav Ther* 26:371-391, 1995.

Thornberry, T.P. Toward an interactional theory of delinquency. *Criminology* 25:863-891, 1987.

Thornberry, T.P.; Korhn, M.D.; Lizotte, A.J.; and Chard-Wierschem, D. The role of juvenile gangs in facilitating delinquent behavior. *J Res Crime Delinq* 30:55-87, 1993.

Thornberry, T.P.; Lizotte, A.J.; Krohn, M.D.; Farnworth, M.; and Jang, S.J. Delinquent peers, beliefs, and delinquent behavior. *Criminology* 32:47-82, 1994.

Thornberry, T.P.; Lizotte, A.J.; Krohn, M.D.; Farnworth, M.; and Jang, S.J. Testing interactional theory: An examination of reciprocal causal relationships among family, school, and delinquency. *J Crimin Law Criminol* 82:3-35, 1991.

Vuchinich, S.; Bank, L.; and Patterson, G.R. Parenting, peers, and the stability of antisocial behavior in preadolescent boys. *Devel Psychol* 28:510-521, 1992.

Warr, M., and Stafford, M. The influence of delinquent peers: What they think or do? *Criminology* 29:851-866, 1991.

Werner, E.E. Risk, resilience, and recovery: Perspectives from the Kauai longitudinal study. *Devel Psychopathol* 5:503-515, 1993.

White, N.M., and Milner, P.M. The psychobiology of reinforcers. In: Rosenzweig, M.R., and Porter, L.W., eds. *Annual Review of Psychology*. Vol. 43. Palo Alto, CA: Annual Reviews, Inc, 1992. pp. 443-471.

AUTHOR

Rand D. Conger, Ph.D.
Director and Professor
Center for Family Research in Rural Mental Health
Department of Sociology
Iowa State University
Ames, IA 50011